

# Geography 260: Introduction to Cartography - Map Conceptualization & Development

Instructor: Dr. Keith Rice

Office Hours: Wednesday 10:00 – 10:50am  
Tuesday & Thursday 11:00 – 11:50am  
or by appointment

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This course is an examination of map use, creation and production. We will start with an exploration of how we *use* maps and then we'll investigate the complete *map making* process from the need to create a map through the cartographic development and production phases. First the student will assume the role of *map reader* as we examine map uses and types, then the student will be the *map-author*--the person who conceives and creates the map while manipulating the final stages of the map's production. The rationale for the map and its graphic structure will be studied, spatial data will be gathered and organized, the layout and specifications developed, and final maps created.

A spectrum of map types (e.g. thematic, reference) and different map formats (e.g. paper vs. digital, presentation, size, structure) will be examined, extending from maps of small local areas to large national regions. Each will be examined in the context of its purpose, design, information content, and communication effectiveness.

Lectures: Lecture sessions (Science B-338) will be on Tuesday and Thursday mornings and will concentrate on, and emphasize key conceptual and theoretical considerations that will lay the groundwork for the laboratory project of the week.

Text: **Thematic Cartography & Geographic Visualization**, 2<sup>nd</sup> edition  
by Terry A. Slocum, Robert B. McMaster, Fritz C. Kessler and Hugh H. Howard,  
Prentice-Hall, 2005 [*Text Rental Book*]

*.pdf excerpts* from **Elements of Cartography**, 6th edition, by Arthur Robinson, Joel Morrison, Phillip Muehrcke, Jon Kimerling, and Stephen Guptill.  
(these are located in your Geography 260 class server directory – see server instructions)

Lab Manual: Geography 260 Laboratory Manual – 2019 Edition

Laboratories: Lab sessions (B-308), on either Tuesday (section 1) or Thursday (section 2) will deal with mapping operation and production problems. There will be 11 laboratory projects, each counting between 4 to 7 percent of your final grade, for a total of 58 percent of the grade for the course.

The requirements for each laboratory project are outlined in detail in material that is in your class lab manual. The resources provided may also include supplementary information about key concepts and procedures which are not covered in the textbook. It should be noted that while a few laboratory projects could be completed within the lab sessions most will require additional work. Some projects are self-contained, a few are linked to later projects.

Laboratory projects should be completed and handed in on or before the due date indicated in the exercise. Similarly, readings should be completed before the class session for which they are assigned. Since lecture, laboratory assignments, and readings are highly integrated, close attention should be paid to completing the assignments on time.

**Examinations:** There will be two examinations, a mid-term on October 31<sup>st</sup>, covering the first eight weeks of the course, and a final comprehensive exam (***Tuesday, December 17, 10:15am – 12:15pm***). The **mid-term** will be composed almost exclusively of multiple-choice questions, focusing not only on basic concepts, principles, and definitions, but also on the applications of these concepts and principles to the solution of mapping problems. It will count 20 percent of the final grade. The **final** will count 22 percent of your grade; it will focus on the cartographic process as a whole, particularly on the development of solutions to specific mapping problems. The final exam format will be multiple-choice, and matching questions.

**Evaluation & Grading:**

	<b><i>Maximum Points</i></b>
Laboratories (eleven total, 4 -7 points apiece)	58 points
Midterm Exam	20
Final Exam	22
Total	100 points

Ranges of percentage scores, exam points, course points, and their approximate equivalent letter grades are shown below. By referring to this table you can determine your letter-grade standing at any point in the course.

<u>Percent</u>	<u>4 Pt Lab</u>	<u>5 Pt Lab</u>	<u>6 Pt Lab</u>	<u>7 Pt Lab</u>	<u>Course Pts.</u>	<u>Letter Grade</u>
93-100	3.8	4.7	5.6	6.5	93	A
90	3.6	4.5	5.4	6.3	90	A-
87	3.5	4.4	5.2	6.1	87	B+
83	3.3	4.2	5.0	5.8	83	B
80	3.2	4.0	4.8	5.6	80	B-
77	3.1	3.9	4.6	5.4	77	C+
73	2.9	3.7	4.4	5.1	73	C
70	2.8	3.5	4.2	4.9	70	C-
67	2.7	3.4	4.0	4.7	67	D+
63	2.5	3.2	3.8	4.4	63	D
<63	<2.5	<3.2	<3.8	<4.4	<63	F

**Attendance:** Although attendance records will not be kept for grading purposes, it is strongly urged that class or lab sessions should not be missed. Past records have shown that students who have inordinate attendance lapses have never been able to complete the course on time. However, in order to comply with federal financial aid Title IV legislation attendance will be taken several times during the course of the semester. UWSP Financial Aid Office is required by Federal law to retract financial aid for students that do not complete at least 60% of the semester for which they were awarded financial assistance. The mandated retraction formula uses the last date of attendance as a factor in determining the percentage of financial aid that must be returned to the U.S. Department of Education (DOE).

**Materials:** The majority of assignments will be completed using geography lab computers. Each student will be assigned a personal subdirectory on the 'geo class' server to keep lab materials and assignments. You should also backup your materials on a USB flash drive, portable hard drive, or your personal server space (assigned by IT). Individual storage devices can be purchased at the University bookstore, specialty electronics store, or most retail department stores.

**Printing Costs:** During the course of the semester each student will be responsible to hand in several word documents and completed map assignments. All student printers are handled through UWSP-IT so you will be charged for 5 cents for each B&W page (single side) as well as 15 cents for each color copy (single side). You start out with \$10 in a UWSP printing account for the semester (for all of your classes) and then are charged a fee at the end of the semester for any printing exceeding that initial balance. You can always check your student printing account on your myPoint portal page on the Finances tab. Although it is *only an estimate*, you likely will print out 30-40 B&W pages and 15 color pages during the course of the semester for this class.

**Student Rights and Responsibilities:** Please make note of the following web-based pdf documents, that explains your responsibilities and rights within the UWSP campus community, including required behavior by students and faculty within the classroom environment:

<https://www.uwsp.edu/dos/Documents/UWSP14-Final2019.pdf>

[https://www.uwsp.edu/dos/Documents/2015\\_Aug\\_AcademicIntegrityBrochure.pdf](https://www.uwsp.edu/dos/Documents/2015_Aug_AcademicIntegrityBrochure.pdf)

<https://www.uwsp.edu/dos/Documents/CH17-UWSP-Updated2019.pdf>

**Accommodations for Students with Disabilities:**

UWSP is committed to providing reasonable and appropriate accommodations to students with disabilities and temporary impairments. If you have a disability or acquire a condition during the semester where you need assistance, please contact the Disability and Assistive Technology Center on the 6th floor of Albertson Hall (library) as soon as possible. DATC can be reached at 715-346-3365 or DATC@uwsp.edu.

## GEOGRAPHY 260: INTRODUCTORY CARTOGRAPHY

### **\*\* Schedule of Lecture Topics, and Laboratory Assignments \*\***

**Fall, 2019**

<u>Lecture Topic</u>	<u>Laboratory</u>
<u>September</u>	
3 & 5 Course Overview & Introductory Comments The Cartographic Process [Powerpoint: Cart_Introduction]	----
10 & 12 Mental Maps & Cognitive Mapping Utility and Functionality of Maps Defining <i>Map Use</i> [Powerpoint: Mental_Mapping, CartModel & Use] [Handout: Board Model described]	1: Map Use (4)
17 Ancient Cartography Mapping during the Age of Exploration Map Propoganda [Powerpoint: Cartographic_History (in Lab 2 Materials subdirectory)] [Article: Monopoly Maps – WWII] [Powerpoint: Propoganda]	2: History of Cartography (4)
19 No class	
24 & 26 Observations & Measurements Surveying, Field Data, GPS & Remote Sensing, Mobile Field Mapping, PPMapping [Powerpoint: Field Surveying Principles in Lab 3 Materials subdirectory] [Article: New Boundaries-Surveying (pdf document), Surveying Instruments (Word document)] [Powerpoint: Remote Sensing Techniques]	3: Field Data & Surveying (5)
<u>October</u>	
1 & 3 Cartographic & GIS Map Sources: Gathering & Acquiring Map Data Analog & Digital Map Data Bases Cartographic Workflow [Lab4-Government Documents – 2019 in Lab 4 Materials subdirectory] [Map Sources 19 - in Lab 4 Materials subdirectory]	4: Archival Data (4) (internet sources)
8 & 10 Grid Transformations & Map Projections Map Reference Systems Common Coordinate Systems [Powerpoints: Projections, Coordinates]	5: Projections (5)
15 & 17 Cartographic Digital Files & Map Compilation Cartographic Sampling & Scale Considerations [Powerpoint: Observations-Measurements-Surveying] [Inventory Schemes handout]	6: Digital (Graphic) Compilation (5)

## October

22 & 24	Data Ordering & Graphic Representation Cartographic Databases [Powerpoint: Compilation – in Lab 6 Materials subdirectory] Handouts: Compilation, Similar Squares - in Lab 6 Materials subdirectory [Class Intervals Powerpoint in Lab 7 Materials subdirectory]	7: Classification Class Intervals (6)
29	Introduction to Geo-statistics Cartographic Generalization [Generalization & Scale Powerpoint] [Measurement Levels – Word document] Midterm Review Session	8: Symbolization (6)
31	<b>Midterm Examination</b>	

## November

5 & 7	Qualitative and Quantitative Spatial Data Symbolization & Feature Attributes [refer back to Class Intervals Powerpoint in Lab 7 Materials subdirectory]	9: Production Artwork (5)
12 & 14	Graphic Representation & Map Design Applied Map Design [Map Design Powerpoint]	10: Graphic Structure (7)
19 & 21	Map Production Quantitative Map Symbolization [Map Production Powerpoint]	11: Design Comprehensive (7)
26	Graduated Symbols, Cartograms, Flow Maps Map Reproduction [Graduated Circles Powerpoint – within the Lab 11 Materials subdirectory] [Cartogram Powerpoint]	-- no lab--
<b><i>[Thanksgiving Vacation November 27 – 30]</i></b>		

## December

3 & 5	Web-based and Social Media Cartography Integration of Cartography & GIS	<i>[open lab]</i>
10 & 12	Dynamic & Interactive Mapping The Cartographic Process – Retrospection & Insight Final Exam Review Session	-- no lab--

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**Final Exam: (both sections) – Tuesday, December 17; 10:15am – 12:15pm**

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### Comments:

- (1) The worth of each laboratory (in points) is denoted within the parentheses next to each lab title.
- (2) This schedule is tentative and is subject to changes during the course of the semester.